

# NATURAL RESOURCES CONSERVATION SERVICE

## CONSTRUCTION SPECIFICATION

### 659 - WETLAND ENHANCEMENT - LOW EMBANKMENT

#### 1. SCOPE

The work shall consist of constructing a low embankment for the purpose of enhancing wetland functions and values at locations shown on the drawings.

Prior to commencing construction, public utilities shall be notified in accordance with N.Y.S. Industrial Code 753.

#### 2. MATERIALS

The earth material used in constructing the low embankment shall be obtained from the pool area or other approved sources. It shall be free of frozen particles, brush, roots, sod, stones over 6 inches in diameter, organic soil material, topsoil or other objectionable materials.

The pipe materials specified shall meet the quality requirements as listed in the following latest revision of the appropriate ASTM specification.

##### ASTM Specification

##### PIPE

D-2241	PVC Pressure-Rated Pipe (SDR Series)
D-1785	PVC Plastic Pipe, Schedules 40, 80, and 120
D-2466	PVC Plastic Pipe Fittings, Schedule 40
D-2665	PVC Plastic Drain, Waste, and Vent Pipe and Fittings
D-3034	PVC (Type PSM) Sewer Pipe and Fittings
F-679	PVC Large Diameter Plastic Gravity Sewer Pipe and Fittings
D-2564	Solvent Cements for PVC Plastic Piping Systems
F-405	Corrugated PE Tubing and Fittings
F-667	Large Diameter Corrugated PE Tubing and Fittings
D-2104	PE Plastic Pipe, Schedule 40
D-2239	PE Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter
D-2447	PE Plastic Pipe, Schedules 40 and 80, Based on Outside Diameter
D-3035	PE Plastic Pipe (DR-PR) Based on Controlled Outside Diameter
F-894	PE Large Diameter Profile Wall Sewer and Drain Pipe
A-760	Corrugated Steel Pipe, Metallic-Coated for Sewers and Drains
B-745B	Corrugated Aluminum Pipe for Sewers and Drains

##### AASHTO Specification

M252	Corrugated Polyethylene Drainage Pipe
M294	Corrugated Polyethylene Pipe, 12-48 inch Diameter

Note: When ASTM F405 corrugated polyethylene tubing and fittings are used, they shall be heavy duty.

### 3. FOUNDATION

The foundation area shall be cleared of all trees, stumps, roots, brush, boulders, sod, and debris. All topsoil shall be removed. The foundation material shall not be frozen, and its surface shall be thoroughly scarified before placement.

The core trench, if specified, shall have a minimum depth as shown on the drawings. Sideslopes of the trench shall be 1H:1V or flatter. The compaction equipment used shall govern the bottom width of the trench. When hand compaction is used, the minimum width shall be 2 feet. Backfill shall be as specified in Section 6.

### 4. WATER CONTROL STRUCTURE

If specified, the service spillway and/or water control structure shall be placed on a firm foundation to the lines and grades shown on the plans. Selected backfill material shall be placed around the pipe and structure in 4 inch layers. Each layer shall be thoroughly compacted with hand-operated equipment to a height of 2 feet over pipes and other structures.

Pipe material shall be as specified on the drawings. Exposed inlets and outlets shall be rigid pipe.

The water control structure shall be fabricated as shown on the drawings or manufactured specifically for the control of water and installed according to the manufacturer's specifications.

If specified, anti-seep collars shall be of a material compatible with the pipe and be connected with watertight joints. Other appurtenances such as anti-vortex devices, trash guards, and beaver protection, if specified, shall be as shown on the drawings.

### 5. BORROW AREA

Borrow areas within the pool area must be located and used so pervious materials are not exposed which could cause the pooling area to leak. It may be necessary to obtain part or all of the borrow material from outside the pool area.

Borrow areas shall be finished so they are suitable for the planned use after construction is completed.

### 6. FILL PLACEMENT

The placing and spreading of fill material shall be started at the lowest point of the foundation. The fill shall be placed in approximately horizontal layers not to exceed 9

inches. The distribution and gradation of materials throughout the fill shall be such that there will be no lenses, pockets, streaks, or layers of material differing substantially in texture or gradation from the surrounding material. Each layer of fill material shall be compacted with 3 passes of the construction equipment so that all parts of each layer are equally compacted. Bulldozers, carryalls, or rollers shall be used for the compaction. Fill material should contain sufficient moisture so that it can be formed into a ball without crumbling. If water can be squeezed out of the ball, it is too wet to compact properly.

#### 7. FINAL GRADING

Topsoil will be respread on the embankment and smoothed enough to allow for reseeding. Excess topsoil shall be placed but not smoothed on disturbed areas including the pool area, and revegetated according to the plan.

#### 8. EARTHEN SPILLWAY

Where specified, a vegetative spillway will be located in natural undisturbed soil and constructed according to the lines and grades as shown on the drawings.

Where specified, rock lined spillways will have geotextile installed prior to placing of rip rap. The quality and grade of rock material shall conform to the requirements as shown on the drawings. Geotextile material will be installed in accordance with NRCS Construction Specification 95 and shall conform to NRCS Material Specification 592, Class 1.

9. MEASUREMENT AND PAYMENT

Payment for the Low Embankment will be made at the contract lump sum price. Such payment shall constitute full compensation for all labor, material, equipment, tools and all other appurtenances necessary and incidental to the completion of the work, including supplying, installing, and backfilling any associated structure.

Compensation for any item of work described in the contract but not listed in the bid schedule will be included in the payment for the work to which it is made subsidiary. Such items are identified in Section 10 of this specification.

10. ITEMS OF WORK AND ADDITIONAL CONDITIONS: